

Claims

- [c1] 1. A method of estimating carrier frequency offset in a constant-period, preamble wireless communications system, the method comprising:
 - determining a main-cursor signal corresponding to a main-cursor path from a matched code output;
 - multiplying the main-cursor signal by a delayed conjugated version of the main-cursor signal to obtain a first result; and
 - estimating the carrier frequency offset according to a predefined formula utilizing the first result.
- [c2] 2. The method of claim 1 wherein the main-cursor signal is determined using peak-detection.
- [c3] 3. The method of claim 1 wherein the predefined formula includes multiplying a phase of the first result by the sign of a real part of the first result.
- [c4] 4. The method of claim 3 wherein the main-cursor signal is a BPSK signal.
- [c5] 5. The method of claim 1 wherein the communications system is a DSSS wireless communications system.

- [c6] 6. A device for use in a constant-period, preambled wireless communications system, the device comprising:
a transceiver for wirelessly communicating with another communications device within the communications system; and
control circuitry connected to the transceiver, the control circuitry comprising a CPU and a memory, the memory comprising:
program code capable of causing a main-cursor signal corresponding to a main-cursor path to be determined from a receiver's matched code output;
program code capable of causing the main-cursor signal to be multiplied by a delayed conjugated version of the main-cursor signal to obtain a first result;
program code comprising at least a predefined formula;
and
program code capable of causing a carrier frequency offset to be estimated according to the predefined formula utilizing the first result.
- [c7] 7. The device of claim 6 wherein the main-cursor signal is determined using peak-detection.
- [c8] 8. The device of claim 6 wherein the predefined formula includes multiplying a phase of the first result by the sign of a real part of the first result.

[c9] 9. The device of claim 6 wherein the main-cursor signal is a BPSK signal.

[c10] 10. The device of claim 6 further comprising a keyboard and LCD.

[c11] 11. The device of claim 6 wherein the communications system is a DSSS wireless communications system.

[c12]